
Perspectives on Public Health: Health Professionals View the Functions of Local Public Health Departments

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FOR MANY YEARS spokesmen for public health have offered a range of opinions about the mission of public health and the functions of health departments. These statements, although extremely useful, fail to account for the diverse roles that are loosely defined as public health occupations, and they fail to reflect the views of line workers in local health departments. The public health movement therefore remains undefined in important dimensions. Often public health department personnel cannot function as a cohesive unit, because the organization lacks a common and clearly defined mission. The public health movement as a whole would benefit from a sharpened identity in the garnering of public support, in the recruitment of competent people, and in the task of giving direc-

tion for public health workers at all levels.

Our purpose is to review some perspectives on the role of health departments and to expand these views with an empirical analysis of the opinions of local health department employees in one State. If various types of public health workers (for example, nurses, administrators, and physicians) can agree on appropriate functions for their organizations, a working definition of public health missions and priorities could be derived. Significant disagreement among health department staff would signify the need for further study of the priorities and the role of local health agencies.

Of course, it should be remembered that the many activities and organizations in the public health field vary widely, and health departments are only one component in this array. Nevertheless, if local health departments are "the community health conscience, the community health analyst, the community health counselor, and the community health catalyst" (1), then these organizations are the

nucleus of the whole public health movement. Hence, their role has been studied and restudied, defined and redefined. We offer another perspective on the health department's role in the public health movement.

Historical Perspective

A succinct evaluation of the identity crisis in public health was offered in 1953 by McGavran who cited the essential task as defining and understanding the purposes, objectives, functions, and missions of public health. McGavran asked (2) :

What is public health? Is there a distinctive discipline of public health? These are simple questions, but the answers are not so simple. There is no agreement, even among our own ranks, as to our sphere of competence, as to the distinctive body of knowledge which is public health. Indeed, there are many leaders in public health who maintain that public health cannot be defined. If this be true, it is no wonder that with the changing times there continues to be increased misunderstanding of public health by the organized medical profession; that there is apathy and indifference to public health on the part of the public and appropriating bodies of government; that there is lack of direction and planning among public health workers themselves; and that recruitment and training of public health

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personnel lag far behind the needs in every country and climate.

Since McGavran expressed this dilemma, professional organizations and leaders in the public health field have tried to articulate the role of local health agencies. The American Public Health Association (APHA), for instance, issued a paper defining this role in 1974 in some detail (3). The APHA statement covers four areas:

1. community health services including communicable and chronic disease control, family health, dental health, substance abuse, accident prevention, and nutrition;

2. environmental health services including food protection, liquid waste and water pollution control, swimming pool and water supply sanitation, occupational health and safety, radiation and vector control, housing conservation and rehabilitation, and related services;

3. mental health services such as prevention, consultation, diagnosis and treatment in outpatient, emergency room, and short-term hospital facilities; and

4. personal health services for persons who cannot assume re-

sponsibility for themselves or if a specific type of care cannot be obtained in the private sector of medicine.

This statement covers processes common to public health services in the four areas, but it fails to develop innovative directions for programs.

Roemer (4) outlined a role for health departments that differs substantially from the one offered by the APHA. Under the regional framework of health services he envisioned, all programmatic responsibilities would be transferred to agencies other than health departments. For example, all personal health services would be handled by health maintenance organizations, and environmental concerns would be addressed by regional environmental quality control boards. Local health departments would perform oversight and coordination functions—including planning, controlling, consultation, and evaluation—for primary service agencies in each region.

In 1976, Terris (5) emphasized the preventive services that local health departments should provide, especially those pertinent to nonin-

fectious diseases. He also outlined new functions for health departments to assume in environmental control, health screening, and education to foster behavioral changes in the population's health habits.

More recent are Bellin's alternate opinions (6) about the appropriate role of health departments. Citing minimal use of departmental services, unenthusiastic support from government officials, and vigorous opposition among private medical providers to competition from public agencies, Bellin urged local health departments to eliminate the provision of personal medical services. In his view, local health agencies should exercise quality control over services delivered in the community; and they should promulgate, monitor, and enforce standards for the provision of health services. Under this plan, departmental activities would be primarily followup of communicable disease contacts and collection of statistics regarding environmental hazards.

Pickett (7) examined the structure and role of State and local health departments and prescribed a role that requires them to have a central focus on a basic organiza-

tion function. Interest in health—the prevention of illness and injuries that lead to dependency and death—is viewed as the essential activity for these organizations. However, coalitions of other interest groups may require addressing issues (education, welfare, environmental protection, for example) that are external to the central function. When issues peripheral to health are included in the activities of local health departments, reorganization of departments or collaborative coalitions are necessary. The structure, role, and functions of health departments will vary, depending on the issue and the interest groups involved.

Finally, Shonick and Price (8) described the denigration of the status of local health departments since about 1950 when Federal funds began to be channeled directly to private and quasi-private agencies, bypassing health departments. The underfunding of health departments thus has become more acute—to the point that these organizations are not able to meet the changing needs in their communities. According to Shonick and Price, sufficient funding (not continual reorganization) is the key to health departments that can perform needed functions such as ambulatory care for the poor and programs for the chronically ill.

These definitions of public health and the role of health departments are interesting, and some are contradictory. An alternative approach to defining the appropriate functions of health departments involves empirical analysis of information supplied by their staffs. Of course, the opinions of health department employees about their organizations do not comprise a conclusive definition of public health. There are many people outside health departments who work in public health and consider themselves health pro-

fessionals. And many people outside health departments (that is, boards of health, State and local governments, Federal agencies, professional groups, and associations) collectively determine the role of these organizations.

Employees' Assessment

In this study we explored the opinions of health department employees regarding appropriate agency services and examine the extent to which various categories of personnel agree on agency functions. The study was part of a larger analysis of the operations of 34 local health departments serving 43 counties in North Carolina. The organizations were dispersed throughout the State and did not differ from the other health departments in the size of the department budget, number of employees, or population size of the service area.

The six categories of personnel studied were health directors, physicians, public health nurses, nurse practitioners, aides and licensed practical nurses, and sanitarians. These groups were selected because they influenced internal policy decisions for health departments or because they constituted the largest groups responsible for the services provided by the departments.

A 60-item questionnaire, listing major services that could be offered by the local health departments, was developed, and opinions about the appropriateness of various health services were elicited. A seven-point scale was used with the range of possible responses from highly inappropriate—1 to highly appropriate—7. Some items measured comparable but not identical services. The items were randomly ordered to avoid a predetermined response set.

Information was collected in the spring of 1978 when questionnaires were given to a designated represen-

tative in each surveyed organization. Employees in all budgeted positions of the health departments were requested to respond, except for one organization of more than 100 employees in which only a 25 percent random sample was surveyed. Questionnaires were distributed and completed during normal working hours. This collection strategy resulted in a return rate of 90 percent or greater in each organization, or a total of 1,079 responses. Complete information on all 60 items appeared on 821 responses. Among the 6 groups analyzed, 463 complete responses were received from 12 nonphysician health directors, 15 physicians, 264 public health nurses, 21 nurse practitioners, 45 aides and licensed practical nurses, and 106 sanitarians. The responses of 358 employees not in these 6 groups were excluded from this analysis.

Factor analysis was used as a data reduction technique to group the correlated questionnaire items into a few conceptually meaningful, relatively independent factors. Using a varimax rotation and applying Kaiser's criterion (9) that only factors with eigenvalues greater than 1 are considered, we obtained a 9-factor orthogonal solution (table 1). A number of items were deleted because they did not load highly in any factor solution. The nine factors retained accounted for 59.7 percent of the variance in responses. In many cases, these factors correspond to well-established health department programs; several factors cut across existing programs. A description of the nine retained factors follows:

Factor 1. Environmental monitoring. Services were related to potential health hazards occurring in the workplace or in substandard housing. Activities included actions to recognize, prevent, and control both environmental hazards and the illnesses they cause.

Factor 2. Communicable disease pre-

vention. Services included provision of safe water supplies, pollution reduction, and the safe and sanitary disposal of human and solid waste.

Factor 3. Ambulatory care to underserved. Activities included the direct delivery of medical care to persons who were unable to obtain a regular source of care, predominantly mothers and children.

Factor 4. Prevention of accidents, screening for cirrhosis and diabetes. Items were concerned with identifying persons with specific diseases and referring them to appropriate treatment facilities. Screening programs and educational services also were included.

Factor 5. Prevention of cancer, heart disease, and lung disease. Services were related to educating the public about how to avoid the three leading causes of death. Screening programs also were included.

Factor 6. Services for mental illness and addiction. Activities ranged from coordination of educational programs to direct diagnosis and treatment on an outpatient basis. Referral services also were included.

Factor 7. Personal health services. Services included immunization and other preventive programs, identification and treatment of venereal disease, and family planning.

Factor 8. Diagnostic laboratory services. Activities involved a full range of diagnostic laboratory services.

Factor 9. Planning and coordination. Activities were designed to influence the delivery of area health services. Specific actions included involvement in needs assessment as well as planning and coordination of facilities and services. This factor also included continuing educational services for the health professions.

Scores for each of the nine factors were derived for each respondent. The scores were then adjusted to give an overall mean of zero for each factor. As stated earlier, persons surveyed were grouped according to occupation. Analysis of variance of the factor scores indicated that the occupational groups were statistically different on factors 3 through 9 (table 2).

While analysis of variance normally requires an equal number of observations in the groups being compared, the software package that was used for this analysis auto-

Table 1. Orthogonal solution with varimax rotation

Item	Factor score									
	1	2	3	4	5	6	7	8	9	
Monitor occupational hazards66
Investigate accident and injury causes56
Monitor pesticide use54
Monitor and certify clinical laboratories53
Inspect houses to prevent accidents51
Enforce sewage and waste disposal regulations72
Monitor waste treatment plants and water services71
Inspect food handlers and establishments69
Record and accumulate birth, death data52
Investigate reports of communicable disease50
Monitor human waste disposal50
Maintain tuberculosis register49
Inspect and monitor food plants48
Monitor environment to prevent disease spread45
Services for underserved expectant mothers and children73
Services for underserved persons and families65
Services for school children64
Services for Medicaid-covered children61
Pre- and postnatal care for expectant mothers47
Services to mothers and children with acute, persisting illnesses46
Screening and referral for cirrhosis64
Educational services to prevent cirrhosis60
Educational services to prevent accidents52
Screening and referral for heart disease49
Outpatient services for rehabilitation49
Educational services to prevent diabetes48
Educational services to prevent heart disease71
Educational services to prevent cancer70
Educational services to prevent lung disease55
Screening and referral for lung disease48
Screening and referral for cancer45
Diagnosis, treatment, and referral for mental illness89
Followup for patients discharged from mental hospitals81
Coordinate mental health education services63
Assessment and treatment for alcohol and drug addiction55
Provide and coordinate immunization services73
Provide family planning services70
Provide venereal disease services61
Educational services to prevent death of children48
Nutritional counseling and education services47
Screening and treatment for nutrition problems45
Provision of diagnostic laboratory services47
Coordinate professional continuing education51
Coordinate all health services in community43
Participate in community health planning42

matically makes adjustments for differences in cell frequencies (10). It also should be noted that generalizations of the results in table 2 must be made with caution, since the principal axis method used for factor scores is a descriptive statistical model and the derived scores are biased estimators.

Review of scores for each factor indicates that all six professional groups were in agreement about the appropriateness of health departments engaging in environmental monitoring (factor 1) and infectious disease prevention (factor 2). They were also largely in agreement regarding the necessity of prevention programs for accidents and screening for cirrhosis and diabetes (factor 4). The Scheffe procedure (11) for comparing all possible pairs of means was used to deter-

mine which pairs of professional groups were statistically different on each of the seven factors for which differences were noted (factors 3 through 9). The results of the Scheffe procedure are summarized in table 3.

The provision of ambulatory care for medically underserved persons (factor 3) was considered most appropriate by nurse practitioners and least appropriate by physicians and sanitarians. This result may reflect the much greater involvement of nurse practitioners in ambulatory care than most other professional groups. Sanitarians do not participate in this activity, and physicians generally view ambulatory care as more appropriate for private practitioners than for public health specialists.

The prevention of cancer, heart

disease, and lung disease (factor 5) was viewed as most appropriate by health directors and least appropriate by nurse practitioners and sanitarians. It is not clear why nurse practitioners responded so negatively to the educational, screening, and referral services associated with preventive health programs.

The provision of services for mental illness and addiction (factor 6) was considered highly appropriate by aides, licensed practical nurses, and sanitarians. However, health department directors and physicians believed that these services would be more appropriately rendered by community mental health centers than by local health departments.

Giving personal health services—including immunization, venereal disease control, and family planning (factor 7)—was ranked high by nurse practitioners, but was given a negative score by sanitarians. This result may be related to the full involvement of nurses, as compared to other professional groups, in personal health service activities.

Diagnostic laboratory services (factor 8) were considered most appropriate by aides and licensed practical nurses, but least appropriate by physicians.

Planning and coordination of health services (factor 9) ranked high among directors, physicians, and public health nurses, but this factor received a negative response from the sanitarians. The first three groups probably had a broader perspective on the range of interests appropriate to health departments and were therefore able to see these agencies in a leadership capacity in the health community.

These varying opinions can be charted on a grid (page 472). As the grid indicates, health directors were positively inclined toward all activities except for the services for mental illness and addiction

Table 2. Analysis of variance factor scores

Factor	Sum of squares	Mean square	F value
1. Environmental monitoring:			
Between groups	2.25	.45	.52
Within groups	392.02	.86	
2. Communicable disease prevention:			
Between groups	7.02	1.40	1.71
Within groups	374.41	.82	
3. Ambulatory care to underserved:			
Between groups	58.74	11.75	¹ 15.70
Within groups	342.08	.75	
4. Prevention of accidents, screening for cirrhosis and diabetes:			
Between groups	11.87	2.37	¹ 3.02
Within groups	358.82	.79	
5. Prevention of cancer, heart disease, and lung disease:			
Between groups	28.21	5.64	¹ 7.31
Within groups	352.82	.77	
6. Services for mental illness and addiction:			
Between groups	34.39	6.88	¹ 8.42
Within groups	373.17	.82	
7. Personal health services:			
Between groups	26.62	5.32	¹ 7.07
Within groups	344.13	.75	
8. Diagnostic laboratory services:			
Between groups	20.94	4.19	¹ 6.82
Within groups	280.62	.61	
9. Planning and coordination:			
Between groups	18.23	3.65	¹ 6.41
Within groups	260.13	.57	

¹ Significance at P = .05.

NOTE: Degrees of freedom for all factors were 5 between groups and 457 within groups.

(factor 6). They were significantly more negative than some other groups toward this factor.

Physicians were strongly negative toward the provision of ambulatory care for medically underserved persons (factor 3), provision of services for mental illness and addiction (factor 6), and diagnostic laboratory services (factor 8), but they were strongly positive toward the planning and coordination of health services (factor 9).

Public health nurses were in the middle of the range of occupations for all factors. They were slightly more positive than some other groups toward planning and coordination (factor 9) and more negative toward services for mental illness and addiction (factor 6).

Sanitarians were strongly positive toward mental health services. But they responded negatively to providing ambulatory care, to disease prevention programs, personal health services, and planning and coordination (factors 3,5,7, and 9).

Conclusions

Local health departments represent an existing network for the delivery of services that could become a vital component, even a mainstay, of a national health care system. Yet these departments are largely overlooked in the developing health policy dialog. This survey was based on a limited sample of health professionals in only one State, but it contributes the views of health department workers to the national dialog about the future of public health.

What are the implications of this study? First, the analysis documents empirically what individual perspectives on the identity of public health have long suggested—namely, that the field is highly complex and that diverse activities and occupations are subsumed under the label of public health, but there is

little agreement across disciplines regarding what this label means. Such diversity among occupational groups may preclude consensus about the purposes, objectives, functions, and missions of public health.

On the other hand, several findings in this study suggest that consensus is possible. The most obvious basis for interoccupational agreement is the reported consensus on environmental monitoring (factor

Table 3. Scheffe comparison between ordered means

Group	Mean	Similar means ¹	
Factor 3			
Nurse practitioners	.6804	...	b
Health directors	.4159	a	b
Aides and LPNs	.3722	a	b
Public health nurses	.1853	a	b
Sanitarians	-.4891	a	...
Physicians	-.7017	a	...
Factor 4 ²			
Sanitarians	.2688	a	...
Health directors	.1561	a	...
Physicians	.0119	a	...
Nurse practitioners	-.0465	a	...
Public health nurses	-.0589	a	...
Aides and LPNs	-.2569	a	...
Factor 5			
Health directors	.5929	...	b
Physicians	.2318	a	b
Public health nurses	.1356	a	b
Aides and LPNs	.0108	a	b
Sanitarians	-.3432	a	...
Nurse practitioners	-.5275	a	...
Factor 6			
Aides and LPNs	.3947	...	b
Sanitarians	.1700	...	b
Nurse practitioners	-.1330	a	b
Public health nurses	-.1829	a	...
Physicians	-.7369	a	...
Health directors	-.9130	a	...
Factor 7			
Nurse practitioners	.4146	...	b
Health directors	.4007	a	b
Physicians	.3799	a	b
Public health nurses	.1064	a	b
Aides and LPNs	-.0579	a	b
Sanitarians	-.3379	a	...
Factor 8			
Aides and LPNs	.3967	...	b
Sanitarians	-.0774	a	b
Health directors	-.0913	a	b
Public health nurses	-.2216	a	b
Nurse practitioners	-.2522	a	b
Physicians	-.7466	a	...
Factor 9			
Health directors	.6255	...	b
Physicians	.4826	...	b
Public health nurses	.1491	...	b
Nurse practitioners	.1072	a	b
Aides and LPNs	-.0175	a	b
Sanitarians	-.2366	a	...

¹ Means with the same letter do not differ significantly from each other.

² Although the analysis of variance identified differences between groups, the Scheffe procedure did not.

LPN = licensed practical nurse.

Grid of agreement by occupational group

	Factors					
	Ambulatory care to underserved	Prevention of cancer, heart disease, and lung disease	Services for mental illness and addiction	Personal health services	Diagnostic laboratory services	Planning and coordination
	3	5	6	7	8	9
Positive	Nurse practitioners	Directors	Aides and LPNs	Nurse practitioners	Aides and LPNs	Directors
	Directors	Physicians	Sanitarians	Directors	Sanitarians	Physicians
	Aides and LPNs	Public health nurses	Nurse practitioners	Physicians	Directors	Public health nurses
	Public health nurses	Aides and LPNs	Public health nurses	Public health nurses	Public health nurses	Nurse practitioners
	Sanitarians	Sanitarians	Physicians	Aides and LPNs	Nurse practitioners	Aides and LPNs
Negative	Physicians	Nurse practitioners	Directors	Sanitarians	Physicians	Sanitarians

NOTE: Vertical lines represent agreement among group means according to the Scheffe procedure.

1) and communicable disease prevention (factor 2). These factors, which all occupational groups agreed were (or should be) undertaken by local health agencies, provide a core of appropriate public health services around which other functions could be added to strengthen the identity of the public health field. Moreover, it is important to remember that the occupational groups surveyed represent clusters and that the groups in the clusters varied across all nine factors. This suggests that differences among occupational groups could be negotiated in order to achieve consensus about appropriate public health functions and priorities.

It is, of course, impossible to generalize from this sample of public health personnel in North Carolina to health personnel throughout the country. Similar studies in other health departments would be useful, not only to contribute to the dialog on the future of public

health but also to answer empirically the question posed by McGavran in 1953: "What is public health?"

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